

MOON 230HAD DAC & Headphone Amp



What is the Moon 230HAD?

The Simaudio Moon 230HAD is a digital to analogue convertor that splices its DAC functionality with the additional ability to operate as a headphone amp and preamp. This hybrid product has become a popular part of the market at a number of price points. For anyone without analogue sources, this is a perfectly logical place to connect both your headphones to and to apply volume. We've already seen some very strong contenders in this category from Naim with the DAC-V1 and Chord with the Hugo. Simaudio has not carved out the enviable reputation it has by shamelessly copying what everyone else is doing however. As such the 230HAD performs this functionality in a manner different to many rivals and adds additional features that are not shared with rivals in the desire to carve a little free space out for it in a busy market, but also because this is how they have traditionally operated as a brand. With the world of 'post CD' source equipment still up for grabs, this is a pretty logical way of going about releasing a new product. Nevertheless, the competition is stiff. Naim and Chord have produced excellent products in the segment and many more affordable options are also available too. Does the Simaudio do enough to stand out and are the extra features and technology genuinely worthwhile or a bit of a gimmick? Time for a trip to the Moon.



Specifications

The Simaudio Moon 230HAD (Simaudio being the company and Moon the product line- in this case the 230HAD belongs to the 'Moon NEO' Series) is a digital to analogue converter that additionally offers preamp and headphone amp functionality. The digital decoding is perhaps the 'main draw' of the 230HAD and in this case, it is built around an ESS Sabre chipset that is rapidly overtaking more established rivals to become the decoder of choice for many brands. This is not too surprising when you consider that the Sabre is capable of excellent measured performance and endows the 230HAD with comfortably up to date decoding.

To this end, the Moon's USB-B input can handle 24/384kHz and DSD at rates up to DSD256. This is partnered by two coaxial digital inputs and a single optical on a toslink connection. These are 'limited' to a 24/192kHz input signal but this still leaves the 230HAD looking pretty up to date on the digital side. At this point, the Moon starts to deviate from a number of rivals. The 230HAD has a volume control but not one that acts in the digital domain. Any incoming signal is decoded to an analogue one before any level adjustment is made.

As such, if you look around the back of the 230HAD two deviations from the 'norm' are apparent. The first is that as well as a variable pre-out, there is a fixed level output that ignores the volume stage altogether and sends a line level source to an amplifier allowing the Moon to be a conventional DAC. The second is that there is an analogue input that directly interfaces with the preamp circuit. At a stroke, the 230HAD makes the jump from being a specialised digital preamp to an actual preamp. The RCA analogue input is joined by a 3.5mm analogue input on the front.



Neither is the only piece of unusual functionality to make its way into the Simaudio. The headphone amp of the 230HAD is also carried out in the analogue domain. This in itself is far from unusual but part of the circuit that Simaudio uses works in the principles of Transconductance. While sounding like something that Derek Acorah might bring up, this is an amplifier circuit that outputs current rather than voltage in the manner of a normal amplifier. In the case of driving headphones well, this is a very desirable feature. Any Transconductance amp is inherently unstable so Simaudio sandwiches this stage between more conventional sections, but it should still result in a very talented headphone amp.

Against all this positivity, there is very little to be negative about in terms of the Moon's specifications. Some rivals have XLR connections and a digital output for monitoring purposes which the 230HAD does without but these are not specification areas that put it at a severe disadvantage compared to rivals. One other quirk that might prove more of an issue is that the output of the fixed

analogue output is a beefy 4v. This is roughly double the 'red book' standard that dates back to CD and when the 230HAD was connected to the Arcam SR250 via this connection, the Arcam was clearly unhappy as this voltage and showed some crackling and distortion. This need not be a huge issue though as the variable output worked perfectly with roughly 50% volume selected. Additionally, the resident Naim Supernait 2 was not affected using the fixed output.

Design

The 230HAD is built into half width casework and features some of the brand styling cues. If you are not familiar with the company's work, the Moon is unlikely to be either especially radical or challenging to use. The sole controls on the front of the unit are an input button that cycles through the available inputs and the volume control. The headphone socket is a full size quarter inch affair and other than it being a little close to the input button- meaning its easy to accidentally press it when removing a headphone socket, the layout is good.

The only curiosity is the sample rate indicators. Instead of a linear line of sample rates, the 230HAD has indicators for 44, 48, DXD and then ones for x2 and x4. As such, an 88.2kHz file will light the 44.1kHz indicator and the x2 indicator at the same time. Quite why this approach has been adopted isn't completely clear and it isn't as easy to interpret as some rivals but you get used to it. Otherwise, the Moon is well finished and everything feels solid and well laid out. You also get a remote control which while not a thing of beauty does allow the functions of the 230HAD to be controlled at a distance. Also potentially of interest to buyers is that the 230HAD can become the back half of a UPnP streamer when paired with the company's MiND UPnP module.



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The 230HAD was used with a Lenovo T530 ThinkPad, Melco N1A NAS and a Naim ND5XS with XP5 XS power supply. It has mainly been connected to a Naim Supernait 2 integrated amplifier driving Neat Momentum 4i and Audio Note AN-K speakers. Additional testing was carried out with the Arcam SR250 in Dirac room EQ mode. Headphone testing has been carried out with the Audio Technica ATH-A2000Z and Audeze LCD-3 headphones. The Analogue input was tested using an Avid Ingenium Twin turntable and a Cyrus Phono signature phono stage. Material used has included lossless and high res FLAC and ALAC, streaming services such as Tidal and Spotify as well as vinyl via the analogue input.



Performance as a DAC

The Moon has shown no issues with any of the digital sources used in testing and neither has performance changed in the time it has been here- the sample itself does look to be well run in however. Up and running, the Moon manages to get an enormous amount right. Perhaps the most interesting thing about the Moon is that despite using the ESS Sabre which on occasions, leaves a rather definite sonic footprint to it, the 230HAD doesn't share these traits to any great extent.

This means that if you listen to something that is more about tonality and instrumental quality than sheer driving force, the Moon has a sweetness and sense of realism that isn't always apparent with rival devices. Ray LaMontagne's *Till the Sun turns black* has a fantastic presence to it. Vocals are locked centre stage and instruments are arrayed behind them in completely believable and tangible layers. The top end of the Moon is a truly special thing- at once detailed and impressively revealing but absolutely free of harshness or aggression.

Of course, if you do ask the 230HAD to show a bit of grunt, it delivers in fine style. *Interloper* by Carbon Based Lifeforms thunders along with truly excellent bass that is deep, tight and impressively detailed. Compared to something like the Naim DAC-V1, the Moon feels a little softer and less willing to really get you nodding along but it would be stretch of the imagination to call it 'slow.' It also responds impressively well to high resolution material. Switching to the lovely 24/96kHz FLAC of Paul Simon's *So Beautiful or So What* is a rewarding experience. There is a fluidity and naturalness to the

way that the Moon handles these files which is completely free of any digital fingerprint. If you have anything to listen to in DSD, the results are also superb. Should this ever become more than a very fringe interest, the 230HAD has you covered.

Performance as a preamp

Switching to the variable outputs of the Moon and bypassing the Naim's volume, reveals a couple of important performance traits in short order. The first is that the presentation of the 230HAD is admirably consistent across both outputs. The way it handles Ray LaMontagne with the volume circuit in the signal path is the same as it is when bypassed. The Moon is also able to deliver much of the positive aspects of its performance at low volume levels.

This in part comes down to the Moon processing volume in the analogue domain. In an absolute sense, the 230HAD might not be as rigidly linear as something like the Chord Hugo but it manages to feel much more like a conventional preamp in operation and the volume pot is much faster to react than the digital volume control of rivals. It also means that the analogue input is no gimmick either. The Moon is admirably consistent at revealing the performance traits of the Avid turntable and Cyrus phono stage and once again delivering a consistent performance regardless of volume setting. If you are looking to use the Moon as a preamp, it does a very fine job of behaving like an analogue one.



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Conclusion



OUT OF 10

Pros

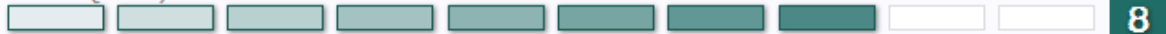
- Exceptionally accurate and refined performance
- Superb headphone amplifier
- Excellent spec

Cons

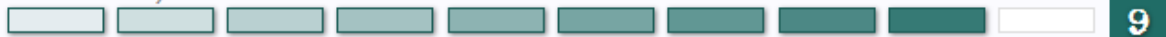
- No Balanced connections
- Fixed output level is very high
- Remote is no looker

Connected to the Audio Technica ATH-A2000Z, the Moon reveals itself to be a seriously talented headphone amplifier. Not having knowingly heard any other Transconductance based amplifier, it is extremely hard to make an educated call on what this brings to the performance of the 230HAD, but there is unquestionably a 'grip' that the Moon exerts on headphones that is readily noticeable and entirely welcome. At the same time, none of that top end sweetness and smoothness is lost in the move to closed listening. I'm not the keenest home headphone listener but the 230HAD has seen me listening for longer than I usually would and with much greater enthusiasm. Moon themselves are relatively modest about what the 230HAD is supposed to be able to do. They stipulate in their website material that the 230HAD is designed with 'reasonably sensitive' headphones in mind but the Audio Technica represents no challenge at all for them and even the much less sensitive Audeze LCD-3 can be driven to respectable levels. Effectively most headphones up to the price of the 230HAD itself are likely to be driven rather well by it. On a convenience note, the inclusion of the remote control is an extremely useful one for headphone use. Unlike a number of its rivals, the Moon is a very pleasant device to use outside of arm's length and once again, the positive action of the volume control and the ease of adjusting to exactly the level you want rather than something close to it.

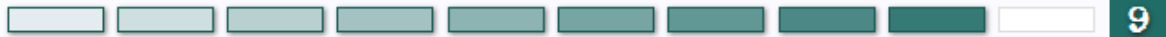
Build Quality



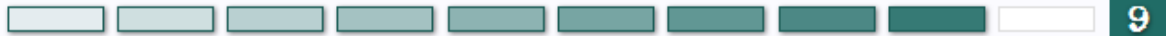
Connectivity



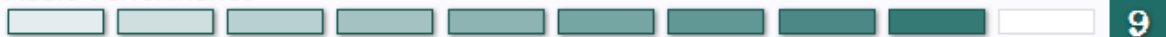
Ease of Use



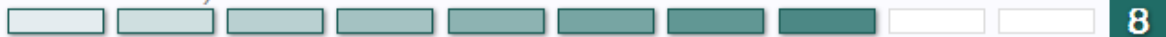
Features



Audio Performance



Value for Money



Verdict

